

Existing Drinking Water Facilities and New Requirements



Franklin D. Baker
U.S. EPA

*To meet New Rules for DBPs,
Surface Water Treatment, and As,
PWSs may need to:*

- Modify Operations
- Retrofit Existing Systems
- Build a New Plant
- Consolidate with another
PWS

New Rule Objectives

- DBP Rules reduce disinfection byproducts w/o compromising disinfection
- Surface Water Rules improve pathogen control without increasing DBPs
- As Rule reduces exposure to arsenic

DBP Rules



- Stage 1 DBP Rule
 - Sets new MCLs for large systems
 - $\geq 10K$ deadline: 1/1/02
 - $< 10K$ deadline: 1/1/04
- Stage 2 DBP Rule (being drafted)
 - Initial Distribution System Evaluation
 - Locational Running Annual Average

Options for Reducing DBPs



- Precursor Control and Removal
- Change Disinfectants
- Change Point(s) of Disinfectant Addition
- Distribution System Modifications

Surface Water Treatment Rules

- IESWTR
 - >10K 1/1/02
 - turbidity of **0.3 ntu 95% of the time**
- LT1SWTR
 - <10K 1/11/05
 - turbidity of **0.3 ntu 95% of the time**
- LT2SWTR (being drafted)
 - Includes additional treatment technique requirements for more vulnerable systems

Strengthened Surface Water Treatment Techniques



- Combined Filter Turbidity of 0.3 ntu -95%
- Continuous Monitoring of Individual Filters
- Disinfection Profiling and Benchmarking
- Finished Water Reservoirs must be Covered

Arsenic Rule

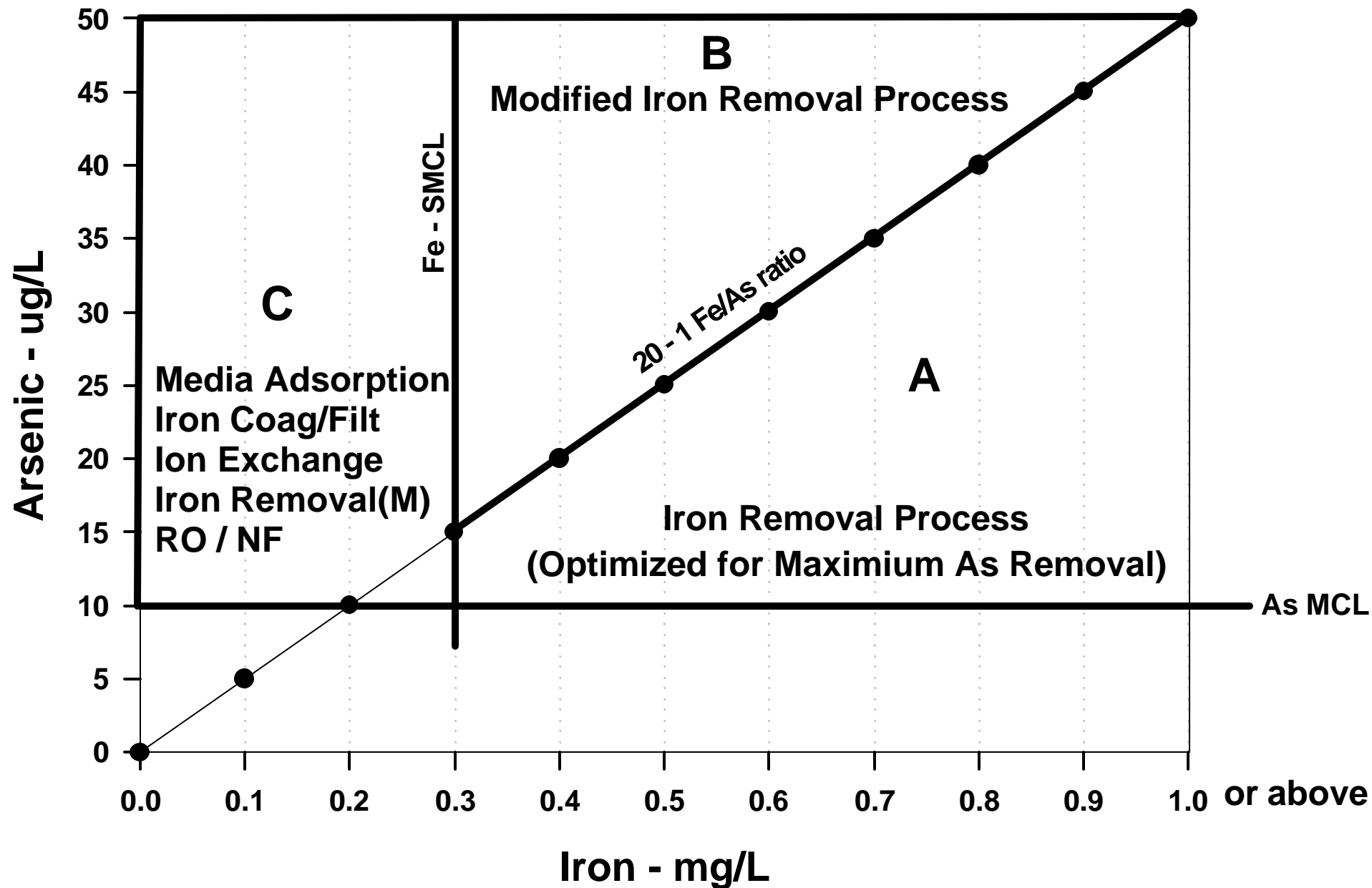


- Lowers the Arsenic MCL from 0.05 mg/l to 0.01 mg/l
- A significant challenge to ground water systems in the western U.S.
- May be a challenge to a handful of ground water systems in the southeast

Arsenic Compliance Options

- Blend with Other Wells Prior to Entry Point
- Centralized Treatment
 - Ion Exchange
 - Activated Alumina
 - RO
 - Ferric Salt Coagulation/Filtration
 - Modified Lime Softening
 - Electrodialysis
 - Oxidative/Adsorptive Processes
- Point-of-Use / Point-of-Entry Devices

Arsenic Treatment - Process Selection Guide



For More Information:

- Call your Delegated State PWSS Program
- EPA's Drinking Water Program Website:
<http://www.epa.gov/safewater/>
- EPA's Safe Drinking Water Hotline:
800/426-4791